



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-2857C
Plant ID No.: 053-00004
Applicant: Felman Production, Inc.
Facility Name: Letart Facility
Location: Mason County
NAICS Code: 324199, 331112
Application Type: Modification
Received Date: April 8, 2014
Engineer Assigned: Steven R. Pursley, PE
Fee Amount: \$3,500.00
Date Received: April 9, 2014
Complete Date: May 8, 2014
Due Date: August 6, 2014
Applicant Ad Date: April 12, 2014
Newspaper: *Point Pleasant Register*
UTM's: Easting: 419.054 km Northing: 4,312.02 km Zone: 17
Description: Installation of a new portable sizing operation.

DESCRIPTION OF PROCESS

The proposed changes involve the addition of one portable screening and/or crushing unit with belts and associated transfer points. All other equipment will remain the same as permitted under R13-2857B.

Front end loaders will load slag to the hopper/feeder. Material will feed through the enclosed , horizontal impact crusher where it will be treated with a water spray. Material will pass to the sizing screen where < ½" material will eject off one side and ½" - 1" material will eject off the opposite side. Materials larger than 1" will be fed back through the system via the top deck belt, then on to the oversized material recirculation belt conveyor to the impact crusher for re-processing. Processed material will eject through the bottom deck belt conveyor. Processed material coming off the belt will also be treated with water sprays to reduce emissions. Material will be stockpiled in a three sided enclosure for front endloaders to load into trucks.

SITE INSPECTION

No site inspection of the facility was deemed necessary as the source is well known to WV DAQ and the writer has performed site inspections of the facility in the past.

The facility was inspected by James Robertson of DAQs enforcement section on May 1, 2014. He reported that the facility is currently shut down but maintenance staff were on site and the facility was hoping to reopen.

The facility is located in New Haven, West Virginia, in an area that is a mix of residential, commercial and industrial. To get to the facility from Charleston take I-77 north to Ripley (exit 138). At the stop light at the bottom of the off ramp turn left on State Route 62 (old Route 33) and proceed approximately 8.8 miles to the intersection of State Route 2. Then, turn left and proceed on State Route 2/62 approximately 3.1 miles. At the top of the hill veer right on State Route 62. Proceed approximately 9.6 miles and the facility is on the left (offices and parking on the right)

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

All emissions are based on AP-42. Crushing and screening emissions are based on Table 11.24-2 (emission factors for metallic minerals processing) since no emission factors for crushing and screening are given in the ferroalloy section (12.4). Hourly emissions are based on maximum design throughput. Annual emissions are based on the throughput at which the operation will be limited in the permit. It should be noted that the applicant used the crushing emission factor from Table 11.24-2 for both the crusher and screen (since no factor for screening exists in that section) individually. However, according to that section "*The emission factors in Tables 11.24-1 and 11.24-2 are for the process operations as a whole. At most metallic mineral processing plants, each process operation requires several types of equipment. A single crushing operation likely includes a hopper or ore dump, screen(s), crusher, surge bin, apron feeder, and conveyor belt transfer points.*" Therefore, ultimately, the calculations as performed by the applicant should be overly conservative. The emissions reflect a 90% control efficiency where a combination of full enclosure and water sprays will be used, 80% where a combination of partial enclosure and water sprays will be used and 50% for stockpiles controlled by water spray.

The emission increases due to this project will be as follows:

	PM		PM ₁₀		PM _{2.5}	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Screens	20.00	3.58	9.46	1.69	2.98	0.53
Crushers	20.00	3.58	9.46	1.69	2.98	0.53
Transfer Points	0.81	0.15	0.38	0.07	0.12	0.02
Stockpiles	0.07	0.28	0.03	0.13	0.03	0.13
Total	40.88	7.59	19.33	3.58	6.11	1.21

REGULATORY APPLICABILITY

The following state and federal regulations apply to the facility:

STATE RULES

45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

The main requirement of 45CSR7 is the process weight rate based PM stack emission rate in section 4 of the rule. As can be see in the table below the sources meet this requirement.

	Permit Limit (lb/hr)	Rule 7 Limit (lb/hr)
Screen	20.00	50.00
Crusher	20.00	50.00

The facility is also subject to a twenty (20) percent opacity limit on all process source operations and must have a plan to minimize fugitive emissions. Felman proposes to meet these requirements through the use of baghouses and enclosures.

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation).

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Because uncontrolled PM emissions from the modification exceed 6 pounds per hour and 10 tons per year of PM the facility is required to submit a modification permit under 45CSR13. Additionally, the facility was required to submit a permit modification application because the modification is subject to substantive federal rules (see below). Therefore, the applicant was required to place a class I legal ad per 45CSR§13-8.3. The affidavit of publication for said ad was received on April 24, 2014.

It should be noted that, for 45CSR14 applicability purposes, this project was not combined with Felmans August 2013 (R13-2857B) project to upgrade crushing and screening operations. This determination was based mainly on Felmans statements that the projects were part of separate business decisions. An analysis of the facts seems to support this contention. Specifically, that project was tied directly to the production of SiMn in the electric arc furnaces. Since the furnaces were shut down due to unfavorable market conditions, the equipment permitted in 2013 is not currently in use and will not be until, if and when the furnaces are restarted. In an effort to keep the facility open, Felman identified a buyer for the slag byproduct that had been accumulating on site over the years. The processing of this byproduct is what is addressed in this application.

45CSR30 Requirements for Operating Permits

The facility is an existing major source under 45CSR30 with an existing Title V permit. Changes authorized by the permit must also be incorporated into the facility's Title V operating permit.

FEDERAL RULES

40 CFR 60 Subpart OOO Standards of Performance for Nonmetallic Mineral Processing Plants.

The applicant indicated in it's application that it is subject to 45 CFR 60 Subpart OOO. Since the screen and crusher do not have a capture system, the primary requirements of the rule applicable to Felman are the opacity limits per Table 3 of the rule. The applicants proposed use of water sprays and enclosures should ensure that the limits are met.

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40 CFR 63 Subpart XXX National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese

The crushing and screening equipment and associated fugitive dust sources are subject to 40 CFR 63 Subpart XXX. The crushers and screens are subject to a limitation of 0.022 gr/dscf. In order to determine compliance with the particulate matter concentration limit, the permittee must perform testing, as outlined in §63.1656.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The main pollutant covered by this permit is particulate matter. However, some portion of that particulate matter may consist of manganese compounds. Since the facility is already a major source of HAPs subject to 40 CFR 63 Subpart XXX requirements are already in place (as can be seen under the "Regulatory Applicability" section of this document) to limit emissions of these compounds.

AIR QUALITY IMPACT ANALYSIS

Because this is a minor modification, as defined in 45CSR14 no modeling was performed.

MONITORING OF OPERATIONS

In addition to the monitoring already required by R13-2857B, the permittee shall monitor and record the following:

- * The amount of material processed through Hopper TMP- H1 on a monthly basis.

CHANGES TO PERMIT R13-2857B

The following changes were made to permit R13-2857B:

- * Table 1.0 was updated to add the new equipment.
- * New conditions 4.1.35 through 4.1.37 were added.
- * Old condition 4.1.35 was renumbered to 4.1.38.

* New condition 4.3.18 was added.

RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-2857C for the modification of a ferro alloy facility near Letart, Mason County, be granted to Felman Production, Inc.

Steven R. Pursley, PE
Engineer

May 12, 2014

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